

PROPOSED BASIS OF BEARING STATUTE MODERNIZATION RATIONALE

Approved by the board 2-7-2020

The surveys of the Public Land Survey System were intended to be run relative to 'True meridians' with some geodetic corrections applied. During the early surveys of Idaho this was understood to mean 'astronomic' bearings. As County and private surveyors began their work, they adopted numerous other bearing systems. Dependent resurveys and subdivision of sections did not always have a clear relationship to 'true' bearings. The need to reliably retrace prior surveys and consistently account for errors in measurement drove the practice of adopting a 'Basis of Bearing'. Surveyors would adopt a specific line between two monuments as a 'reference line' to which all other bearings on the map would relate. This allowed the following surveyor to relate the various records with some reliability.

To say the measurement tools used by surveyors have changed since the first surveys would be a gross understatement. Our ability to determine directions related to defined systems such as astronomic or a projected grid has gone from complex manual procedures and computations to nearly automatic. The majority of modern surveys are performed in a manner that makes angle adjustment obsolete. Adjusted bearings on a survey no longer require the selection of a single reference line. The need to relate the bearings in records from various sources and time periods remains.

Under the current law, surveyors are required to select one line between two monuments as the basis for all others on the map. In reality, the observations for the survey were likely made as a network where the direction relationship between any two monuments a reasonable distance apart will carry roughly the same weight. Rather than arbitrarily selecting a line in those cases, it would be better practice to provide the information required to match the bearing system used, along with sufficient information for the following surveyor to confirm they are following the system correctly.

Staff requests the board consider the following change to 55-1902 Idaho Code:

55-1902. DEFINITIONS. As used in this chapter:

(1) "Basis of bearing" means (a) the bearing in degrees, minutes and seconds, or equivalent, of a line between two (2) monuments or two (2) monumented corners that serves as the reference bearing for all other lines on the survey. , or; (b) a description of the bearing system used to include a complete citation of the datum, epoch and name of the published projection used must be shown on the survey. If a custom projection is used the datum, epoch and all defining parameters of the projection shall also be shown on the survey. For surveys where the bearing system is shown in accordance with sub-section (b) herein, the convergence angle computed at a minimum of one monument on the survey must be shown.